

Mt Arthur Coal Extension

Muswellbrook, NSW

Mt Arthur Coal extension included a cut-off wall installation up to 14m below ground level through thick layers of poorly graded river gravels. Read how Keller achieved a permeability requirement of less than 1×10^{-9} m/s.



The project

As part of Mount Arthur Coal (MAC) Windmill Extension works, Keller were engaged to construct a soil bentonite cut-off wall to minimise potential ground water movement into the proposed mine expansion. The cut-off wall was approximately 900m in length and was required to socket into bedrock at depths of up to 14m.

The challenge

The ground conditions comprised a thick band of river gravels at depth and some cemented layers above the bedrock. In some locations the gravel band was 6m thick and comprised cobbles up to 100mm raising concerns for excavation stability.

The solution

Keller performed a number of mix design trials to overcome the complicated ground conditions and to ensure the performance criteria was achieved. The team utilised a custom cut-off wall bucket to penetrate through the challenging ground conditions to complete the wall with zero incidents, on time and within budget.

Project facts

Owner(s)

BHP

Keller business unit(s)

Keller Australia

Main contractor(s)

Robson Civil

Solutions

Seepage control

Markets

Industrial

Techniques

Slurry cut-off walls